

IN THE CLAIMS:

Claim 1 (Currently Amended): A thermoelectric converter comprising:

an operating medium ~~which is~~ brought into contact with one end portion of an electrolyte medium having ion conductivity, wherein the operating medium is connected to a first terminal and emits an electron or binds to an electron by oxidation or reduction~~[[,]]~~; and

a permeable electrode ~~which is~~ brought into contact with the other end portion of the electrolyte medium, wherein the permeable electrode is connected to a second terminal and allows the operating medium to permeate there through,

wherein the contact portion of the electrolyte medium ~~[[with]]~~ at the operating medium side is disposed ~~[[at]]~~ in a low-temperature side while the contact portion of the electrolyte medium ~~[[with]]~~ at the permeable electrode side is disposed ~~[[at]]~~ in a high-temperature side, and

the contact portion of the electrolyte medium ~~[[with]]~~ at the operating medium side and the contact portion of the electrolyte medium ~~[[with]]~~ at the permeable electrode side are set substantially under the same pressure.

Claim 2 (Original): The thermoelectric converter according to claim 1, wherein the electrolyte medium comprises a solid electrolyte material.

Claim 3 (Original): The thermoelectric converter according to claim 2, wherein the solid electrolyte material is β " alumina.

Claim 4 (Original): The thermoelectric converter according to claim 1, wherein the electrolyte medium comprises electrolyte materials having different ion conductivity.

Claim 5 (Original): The thermoelectric converter according to claim 1, wherein the electrolyte medium comprises a hollow member which comprises a solid electrolyte material and is designed in a hollow shape or a tubular shape having a bottom, and a liquid electrolyte material introduced in the hollow member.

Claim 6 (Original): The thermoelectric converter according to claim 5, wherein the solid electrolyte material is β " alumina.

Claim 7 (Original): The thermoelectric converter according to claim 5, wherein the liquid electrolyte material is a molten salt.

Claim 8 (Original): The thermoelectric converter according to claim 1, wherein the electrolyte medium comprises a liquid electrolyte material.

Claim 9 (Original): The thermoelectric converter according to claim 8, wherein the liquid electrolyte material is a molten salt.

Claim 10 (Original): The thermoelectric converter according to claim 1, wherein the operating medium is an alkali metal.

Claim 11 (Original): The thermoelectric converter according to claim 10, wherein the alkali metal is sodium.

Claim 12 (Original): The thermoelectric converter according to claim 1, wherein the operating medium is impregnated in an impregnation member.

Claim 13 (Currently Amended): A thermoelectric converter, comprising:

an operating medium ~~which is~~ brought into contact with one end portion of an electrolyte medium having ion conductivity, wherein the operating medium is connected to a first terminal and emits an electron or binds to an electron by oxidation or reduction[[,]]; and

a permeable electrode ~~which is~~ brought into contact with the other end portion of the electrolyte medium, wherein the permeable electrode is connected to a second terminal and allows the operating medium to permeate therethrough,

wherein the operating medium is vaporized at the permeable electrode side while the operating medium is condensed at a condensing portion, the contact portion of the electrolyte medium ~~with~~ at the operating medium side is disposed [[at]] in a low-temperature side while the contact portion of the electrolyte medium ~~with~~ at the permeable electrode side is disposed [[at]] in a high-temperature side, and

a pressure difference between the contact portion of the operating medium [[with]] at the first terminal and the condensing portion is equal to or less than a ~~vapor pressure~~ difference in a vapor pressure of the operating medium ~~which is~~ caused by a temperature difference between the contact portion of the operating medium [[with]] at the first terminal and the condensing portion.

Claim 14 (Currently Amended): The thermoelectric converter according to claim 13, further includes ~~wherein~~ a partition plate for separating ~~both spaces of~~ the contact portion of the electrolyte medium ~~[[with]]~~ at the operating medium side and the contact portion of the electrolyte medium ~~[[with]]~~ at the permeable electrode side ~~is disposed between the contact portion of the electrolyte medium with the operating medium and the contact portion of the electrolyte medium with the permeable electrode.~~

Claim 15 (Currently Amended): The thermoelectric converter according to claim 13, wherein the contact portion of the electrolyte medium ~~[[with]]~~ at the operating medium side has a higher temperature than the condensing portion.

Claim 16 (Original): The thermoelectric converter according to claim 13, wherein the electrolyte medium comprises a solid electrolyte material.

Claim 17 (Original): The thermoelectric converter according to claim 13, wherein the operating medium is an alkali metal.

Claim 18 (Original): The thermoelectric converter according to claim 17, wherein the alkali metal is sodium.

Claim 19 (Original): The thermoelectric converter according to claim 13, wherein the operating medium is impregnated in an impregnation material.

Claim 20 (Original): The thermoelectric converter according to claim 13, wherein the electrolyte medium comprises electrolyte materials having different ion conductivity.

Claim 21 (Original): The thermoelectric converter according to claim 13, wherein the electrolyte medium comprises a hollow member which comprises a solid electrolyte material and is designed in a hollow shape or a tubular shape having a bottom, and a liquid electrolyte material introduced in the hollow member.

Claim 22 (Original): The thermoelectric converter according to claim 21, wherein the solid electrolyte material is β " alumina.